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ABSTRACT

This evaluation manual is a response to requests of education and training organizations for a practical methodology with tools to evaluate information and communications technology (ICT) projects and use of information and learning technologies in teaching and learning in Great Britain. Section 1 describes evaluation methodologies, the evaluation tools in the form of a set of three customizable questionnaire templates, and how to manage the evaluation process. Section 2 contains three customizable questionnaires designed to collect feedback from learners, staff supporting learners, and managers. The questionnaire templates are designed primarily for use in evaluating individual projects, strategies, or specific ICT learning and teaching but can also be used to make comparisons within or between organizations. Section 3 discusses customizing the questionnaire templates. Section 4 provides information on evaluation methodologies. Section 5 contains a customizable analysis guidance template with questions to consider when analyzing responses to the questionnaires, developing reports, and developing action plans. Appendixes contain information on six colleges involved in trials of the templates, 25 references, and glossary. (YLB)

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Evaluating ICT projects and strategies in teaching and learning

ED 447 314

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in teaching and learning

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Published by FEDA

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Summary

This evaluation manual has been produced in response to requests from education and training organisations for a practical methodology with tools that can be used to evaluate information and communications technology (ICT) projects and/or the use of information and learning technologies (ILT) in teaching and learning.

It describes relevant evaluation methodologies and provides evaluation tools in the form of a set of three customisable questionnaire templates. These templates can be used to develop questionnaires to collect the observations, experiences and opinions of managers, staff (especially teaching staff) and learners, as these three groups are likely to be the major stakeholders in the introduction of ICT into teaching and learning or the implementation of ICT projects.

The questionnaire templates have been developed, drawing on research evidence and practical experience at the Open University (OU) and trials of draft templates in multiple projects within further education (FE) colleges.

It is essential to customise the questionnaire templates to incorporate specific and relevant questions about the unique aims and objectives of the activities being evaluated and to ensure that the needs of specific groups of stakeholders are addressed.

The evaluation tools provided have been primarily designed to evaluate individual projects, strategies or specific uses of ICT in teaching and learning. They can also be used to compare different projects, strategies or uses of ICT within or between organisations, provided care is taken to ensure like-with-like comparisons.

The manual also contains a customisable analysis guidance template with questions to consider when analysing responses to the questionnaires, reports and action plans.

Introduction

1

Background and intended use

This manual has been produced in response to requests from education and training organisations for a practical methodology with evaluation tools. It can be used to evaluate specific information and communications technology (ICT) projects and the use of information and learning technologies (ILT) in teaching and learning. It will also be useful for developing ICT materials and implementing self-assessment processes.

The evaluation tools are questionnaire templates that have been designed primarily to evaluate individual projects, strategies or specific uses of information and communications technology in teaching and learning. They can also be used to compare different projects, strategies or uses of information and communications technology within or between organisations. However:

- it will be essential to customise the questionnaire templates so that they are relevant to the aims and objectives of the specific activities being evaluated and to the specific needs of the groups of stakeholders (see Section 3)
- if the customised questionnaires are used for intra or inter organisation comparisons, care must be taken to compare only aspects of projects or uses of information and communications technology that are really comparable.

This manual is *not* designed to evaluate specific software packages or learning materials. There are already several good software evaluation instruments available for this. See *The right tools for the job: evaluating multimedia, flexible and open learning materials* (Lockitt, 1999).

A draft manual was produced by a team of researchers from the Open University (OU) working with FEDA. The questionnaire templates originally consisted mostly of open-ended questions. FEDA amended these to include more closed questions to facilitate quicker and easier completion and analysis of questionnaires. This should also make the questionnaires more suitable for cross-college comparisons (see above).

This manual will be used as part of the National Learning Network (NLN) evaluation of the efficiency and effectiveness of investment in information and learning technology by the FE sector. Investigations within this evaluation will focus on cohorts of learners studying with a representative sample of colleges over two years. Feedback from this study will inform further development of the tools provided here.

Evaluation methodologies

There is a substantial body of research evidence available to guide selection and application of evaluation methodologies (see Section 4). The methodology in this manual concentrates on surveying project or activity stakeholders through questionnaires. Questionnaires are a very familiar method of collecting data, including feedback, and have the following advantages:

- they can be used off the shelf or easily customised for a particular context or audience
- they are relatively quick to implement
- they are relatively quick to analyse
- they can be used for a wide range of projects with very different aims and objectives
- they can be used for formative or summative evaluation and for pre- and post- activity or project evaluation.

It could be argued that using questionnaires only might result in too much concentration on the product rather than the process of learning with ICT. The most thorough types of evaluation methodology use data gathered in a variety of ways, including interviews, observations (human or video camera), surveys, user and learner diaries and log books, pre- and post- activity or project knowledge quizzes and focus groups.

Some interactions between people and technology are best studied through observation. As this can be a resource-hungry process, the staff and learner questionnaires include questions designed to highlight these interactions. Comparisons of data collected by observation or records kept by learners during learning activities, with data collected via questionnaires, can be very illuminating. Users of this manual may therefore wish to consider adopting other methods of data collection, as well as the questionnaires. If observation is appropriate, it could involve external evaluators or rely on the reflective abilities of the staff involved. Some researchers suggest that it is difficult for practitioners to reflect objectively on their own practice (Phillips, 1988), but others disagree (Kerry, 1988). It is probably true that staff are encouraged in their reflections if the circumstances are safe and they feel able to trust the individuals who will see their evaluations.

Information collected via questionnaires based on these templates may be enriched by, and should be compared with, any 'hard' data available. If integrated learning systems (ILS) or managed learning environments (MLE) are used, these systems provide records of what the users have done plus information on their progress and achievements. Hard data from student tracking systems, college or management information systems (C/MIS), e.g. retention rates and achievement data, can also contribute to evidence of the impact of an ICT project or strategy.

The questionnaire templates

A set of three questionnaire templates has been developed for colleges to customise. They draw on the research described in Section 4 and practical experience at the Open University and draft templates have been trialed in multiple projects in six FE colleges (see Appendix 1).

The questionnaire templates are designed to collect the observations, experiences and opinions of learners, staff (especially teaching staff) and managers respectively, as these three groups are likely to be the major stakeholders in the introduction of information and communications technology into teaching and learning and the implementation of ICT projects.

The involvement of teaching staff in the evaluation process is particularly important, as research indicates that many education innovations have failed because they underestimated the importance of teaching staff in implementation.

The format of the staff and manager questionnaire templates is a modified version of the OU framework described in Section 4. The templates are divided into three sections:

- *Context*: information on the projects themselves and the institution, plus information on the commitment and expertise of managers and staff
- *Resources, access and support*: information on the computing facilities, hardware, software, funding and student support
- *Outcomes*: information on the strategic and specific aims of the project.

The staff and manager questionnaire templates have been designed to follow the same overall framework so that they can be easily cross-referenced during analysis.

The learner questionnaire may be customised to include questions that test relevant knowledge held or gained before and/or after a project or use of a particular system or software (see Section 3). These additional questions provide a mechanism for checking that learning and retention of knowledge have taken place.

The questionnaire templates are largely composed of 'closed' tick box questions plus a few open-ended questions. Closed questions are used because they are generally quick to complete and easy to analyse. Open-ended questions are used because although they are harder to answer and analyse, they give richer feedback on factors that might influence the effectiveness of the project or strategy under evaluation.

In the learner questionnaire, a mix of closed and open questions helps to take account of the variable literacy levels of the learners. Also, the potentially varied aims of ICT projects and strategies mean that it has been difficult to design specific, closed questions about the learners' experiences for inclusion in a generic questionnaire template. For example, during the college-based trials, one learner answered the question 'Did the system help you to learn?' with 'No' but answered the following question, 'Can you give reasons for your answer?' with 'It just gave me the information that I was after quickly.'

All the questionnaire templates include some statements about a project, or use of a particular system/software, and respondents are asked to indicate the extent of their agreement or disagreement. Some researchers argue for including both positive and negative statements to avoid any bias which may arise if a questionnaire is perceived as having a positive or negative tone. However, in the college trials, some learners were confused by this approach and so the questionnaire templates provide consistently positive statements.

Managing the evaluation process

Evidence from trialing the questionnaire templates and established practice in any situation requiring the management of change, indicate that the whole evaluation process needs to be overseen by one manager: the evaluation manager. The evaluation manager needs to be familiar with the aims and objectives of the ICT project, or strategy, and able to decide how the questionnaire templates need to be customised.

Senior management instigating an evaluation process should consider whether it is appropriate for the manager of an ICT project to be responsible for its evaluation. This approach would be consistent with self-assessment, which is established practice in further education. However, there is also the risk of deliberate enhancement of evaluation results and the possibility of a lack of objectivity which is inherent in any self-assessment process.

The evaluation manager's responsibilities include:

- **deciding how questionnaire templates need to be customised**
  The two main reasons for customisation are:
  - the type of language used and its suitability for particular learners
  - the need to include questions directly relevant to the unique circumstances of the project or strategy.

  In the trials of the questionnaire templates customisation emerged as a key factor in determining the success of the evaluation process (see Section 3 for further details)
- **ensuring that everyone on the team is aware of the strategic aims** of the project and knows how to fill in the 'aims' section of the staff and management questionnaires. The trials revealed that some people found this section quite difficult and that team discussion sessions beforehand helped
- **agreeing when the evaluation should be carried out** The evaluation may occur once, be repeated at key stages of a project or strategy implementation, or occur both before and after. Reference to the evaluation tools at the start is particularly useful as it can help to:
  - clarify aims and objectives
  - inform development of success criteria and performance indicators, if these are appropriate and practical
  - shape subsequent development
- **deciding if sampling is appropriate and, if so, what sampling strategy** to use e.g. how many staff, and how many learners, should be asked to complete questionnaires and what criteria should be used to select these samples

- **coordinating the analysis** Analysis of the results should take place in four stages:
  - *recording and summarising learner responses* to their questions (e.g. 75% of learners indicated that they 'enjoyed' or 'very much enjoyed' the project). This analysis is often done by computer
  - *recording and summarising management and staff responses:* if there are only a few questionnaires to analyse, some evaluation managers prefer to do it by hand to immerse themselves in the data
  - *consideration of the implications of information provided* (see Section 5)
  - *triangulation*, involving comparison of the responses to similar questions by each of the stakeholder groups, provides additional data or highlights areas for further investigation or action e.g:
    - did management perceive staff as 'regular and confident' users of information and communications technology while staff considered themselves 'beginners or occasional users'? If so, it could prompt the question 'might additional staff training have made the project or strategy more successful'? The answer will contribute to planning for future projects/strategy
    - did staff believe that most learners 'really enjoyed' using the software while the learners themselves mostly reported that they 'do not enjoy' using computers? In this case was the specific system so user friendly, or the support provided by staff so good, that it helped people to overcome their general dislike of computers? or did the staff not spend enough time with the users to be able to gauge their feelings accurately?

  For further help with analysis see Section 5, 'Analysis guidance template'. For advice or assistance with data collection and analysis contact FEDA Survey Research Services, tel: 020 7840 5316 or e-mail: gknight@feda.ac.uk
- **deciding whether to collect information in other ways**, or from other sources, for comparison with or enrichment of information collected via the questionnaires
- **deciding how to feed back the findings** of the evaluation process to the project stakeholders
- **formulating an action plan** to address issues illuminated by the evaluation process and to inform future projects or development.

Key messages from the trials

- Customising the questionnaire templates is vital. Most important is customisation to include questions about the unique aims and objectives of the project concerned. Some colleges used the questionnaire templates without customising them, which led to problems at the analysis stage when it became clear that key questions had not been asked. The option to include or leave out questions is also important, as sections which some colleges found valuable were of limited importance for others. For example, one college suggested that the questions about access to computers outside the college were 'a waste of time', because all students had their own computers. In contrast, at another college very few of the students had computer access outside and this question revealed that home access had an important influence on the students' IT literacy and the success of the project.
- **Lack of time to implement projects and strategies was a major constraint** on customisation. It was clear throughout the trials that colleges were finding it difficult to keep to their implementation timetables.
- **The process of thinking through the project or strategic aims is helpful.** Several managers commented that projects or initiatives are often introduced too rapidly to allow time for proper reflection on exactly what they are trying to achieve. This observation was supported by the fact that staff sometimes left the aims and objectives section of the questionnaire blank. The manager template therefore includes questions on whether the staff have been told what the aims and objectives are, as well as seeking their opinions on how far these have been achieved.
- **Good communication between managers and lecturers and a sense of shared ownership** of the projects and strategies resulted in the most thoroughly completed staff questionnaires. In colleges where communication was less good, the lecturer questionnaires tended to be completed rather half-heartedly. Some staff were resistant to using information and communications technology in their teaching and, again, poor communication and a lack of a sense of ownership seem to be at the root of this.
- **Inspection and self-assessment preparation** were going on at several of the colleges during the trials and those colleges used the evaluation tools to identify areas of strength and weakness and to collect inspection evidence.

The questionnaire templates

2

This section contains three customisable questionnaires designed to collect feedback from:

- learners
- staff supporting learners
- managers.

They can also be found on the CD accompanying this publication where they are supplied in Microsoft Word 98 (as they appear on the following pages) and Microsoft Word 95 (for those who do not have access to Microsoft Word 98).

The questionnaire templates have been designed primarily for use in evaluating individual projects, strategies or specific ICT learning and teaching but can also be used to make comparisons within or between organisations, as long as care is taken to compare like with like.

It is **vital** to customise these templates, as different questions have more or less relevance for different users. Many of the questions are generally phrased and need to be reworded to apply to specific subjects, aims and techniques (see Section 3).

Learner questionnaire template

Introduction

This questionnaire is designed to help us to evaluate a project or to look at how we use computers in our teaching. It is anonymous and will not be used to assess you in any way.

1. **Programme title? (e.g. second year A-level Maths, GNVQ Intermediate Science)**

2. **Which age group are you in?**

2.1	14–15	☐
2.2	16–19	☐
2.3	20–25	☐
2.4	26–35	☐
2.5	36–45	☐
2.6	46–60	☐
2.7	Over 60	☐

Your use of the system

This section is designed to help us find out how useful and easy you found the system and how well it fitted in with your other studies.

3. **Approximately how many hours have you spent on the system?** [ ]

4. **Please tick to indicate whether you agree or disagree with the following statements about the system you used:**

		Agree	Not sure	Disagree
4.1	I found it easy to get access	☐	☐	☐
4.2	I found it easy to find my way around	☐	☐	☐
4.3	I found it easy to get the information I needed	☐	☐	☐
4.4	I did not have any technical difficulties	☐	☐	☐

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5. Please tick to indicate whether you agree or disagree with the following statements:

		Agree	Not sure	Disagree
5.1	The system helped me to practise useful skills	☐	☐	☐
5.2	The system helped me to find useful information	☐	☐	☐
5.3	I enjoyed using the system	☐	☐	☐
5.4	The information in the system was clear	☐	☐	☐

6. Are you being assessed on how to use the system?

6.1 Yes ☐
6.2 No ☐
6.3 Not sure ☐

7. Is what you produce from the system (e.g. a print out) going to be assessed?

7.1 Yes ☐
7.2 No ☐
7.3 Not sure ☐

8. Is what you are getting from the system going to be useful to you in an assessment?

8.1 Yes ☐
8.2 No ☐
8.3 Not sure ☐

9. Do you understand why you are using the system?

9.1 Yes ☐
9.2 No ☐
9.3 Partially ☐

10. If your answer was 'yes', please say briefly why you are using it:

11. What did you think was the best aspect of using the system?

12. **What was the worst aspect of using the system?**

13. **Overall, do you think the system helped you to learn?**

13.1 Yes ☐
13.2 No ☐

14. **Please give reasons for your answer:**

Your general use of computers

This section is to help us to find out about your overall level of experience, skill and familiarity with computers.

15. **Do you use computers when you are:**
please tick all that apply

15.1 At college/the learning centre ☐
15.2 At home ☐
15.3 At work ☐
15.4 In other centres or internet cafés ☐

16. **How often do you use computers generally?**

16.1 Daily ☐
16.2 Weekly ☐
16.3 Monthly ☐
16.4 Rarely ☐
16.5 Never ☐

17. **How would you describe your own use and understanding of ICT?**

17.1 Expert ☐
17.2 Regular and confident user ☐
17.3 Intermediate and learning quickly and enthusiastically ☐
17.4 Beginner or occasional user ☐
17.5 Little or no experience of ICT ☐

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18. Please explain, if you can, why you have this level of expertise:

18.1 Self taught ☐
18.2 On-the-job training ☐
18.3 Training course ☐
18.4 IT career background ☐
18.5 Other ☐

19. Do you enjoy using computers?

19.1 Yes ☐
19.2 No ☐
19.3 Not sure ☐

20. Please give reasons for your answer to question 19:

21. Which of the following applications/software had you used before starting your learning programme, and which have you used during your programme? (please tick – NB you should tick *both* columns if you used the software both before *and* during your programme)

Application/software	Used before	Used during programme
Word processing		
Spreadsheets		
CD-ROMs		
Internet		
E-mail		
Databases		

22. Many thanks for taking the time to fill in this questionnaire. If you have any other comments, please write them in the space below:

Staff questionnaire template

Introduction

This questionnaire is intended for use as part of an evaluation process involving collection and comparison of feedback from the major stakeholders (typically learners, teaching staff and managerial staff) in an ICT project or strategy. To ensure maximum benefit from the evaluation process, please complete this questionnaire fully and frankly.

Context

1. **Name:**
2. **Job title:**
3. **Role in this project:**
4. **Project title:**
5. **Brief description of the project:**
6. **Start date:**
7. **Status of the project**
   please tick one only

7.1	Flagship	☐
7.2	Pilot	☐
7.3	Response to invitation to tender	☐
7.4	Part of whole-organisation ICT strategy implementation	☐
7.5	Local (department/faculty/school) initiative	☐
7.6	*Ad hoc*	☐

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8 How would you describe senior managers' commitment to the project?

8.1	Championed by senior management	☐
8.2	Actively interested, supportive and have ensured adequate resources	☐
8.3	Some interest and support when approached	☐
8.4	Have approved project but will take little interest until success demonstrated	☐
8.5	Unaware of project or not interested	☐

9. How would you describe the delivery team's commitment to the project? (e.g. lecturers, tutors, librarians, learning assistants involved)

9.1	Feel ownership for the project and fully committed to its success	☐
9.2	Believe the project is important and will do their best to ensure success	☐
9.3	Interested and will try to dedicate sufficient time	☐
9.4	Have been asked to participate but do not consider it a priority	☐
9.5	Only participating because required to	☐

10. Have there been any changes in the organisation since the start of the project that may have affected its outcomes or timescales? i.e.

10.1	Organisation-wide reorganisation/restructuring	☐
10.2	Changes to senior management team	☐
10.3	New ICT strategy	☐
10.4	Change in management responsible for the project	☐
10.5	Staff turnover in the delivery team	☐
10.6	Other, please specify:	

11. Have you used ICT materials to assist your own learning? **Yes** ☐ **No** ☐

If yes, please give details and indicate whether or not you found this method of supported learning effective.

12. How would you describe your own use and understanding of ICT?

12.1	Expert	☐
12.2	Regular and confident user	☐
12.3	Intermediate and learning quickly and enthusiastically	☐
12.4	Beginner or occasional user	☐
12.5	Little or no experience of ICT	☐

13. How has the organisation helped you to develop your use and understanding of ICT?

13.1 Individual tailor-made CPD programmes ☐
13.2 External courses ☐
13.3 In-house courses ☐
13.4 Self-paced flexible learning materials ☐
13.5 On-line learning ☐
13.6 Other, please specify:

14. How often did the delivery team meet?

14.1 Daily ☐
14.2 More than once a week ☐
14.3 Weekly ☐
14.4 More than once a month ☐
14.5 Monthly ☐
14.6 Quarterly ☐
14.7 Occasionally ☐

15. How did the delivery team feed back to the management?
please tick all that apply

15.1 Face-to-face meetings ☐
15.2 E-mail ☐
15.3 Web/intranet ☐
15.4 Paper reports ☐

16. In the table below, list the programme(s) where you used ICT materials (title, level, number of learners, etc.) and explain how you prepared the learners for using the materials (preparation may include checking learners' IT awareness, going through the project brief, making outcomes explicit, explaining how the learners can get help, etc.):

Title of programme	Level	Number of learners	Preparation of learners

Resources, access and support

17. How did learners access the computing facilities?

17.1	In classrooms	☐
17.2	In college-based learning centres	☐
17.3	In community-based learning centres	☐
17.4	From work	☐
17.5	From home	☐

18. Was the hardware reliable?

18.1	Yes	☐
18.2	Mostly	☐
18.3	To some extent	☐
18.4	No	☐

19. Was the software reliable?

19.1	Yes	☐
19.2	Mostly	☐
19.3	To some extent	☐
19.4	No	☐

20. Please describe any problems you or your learners had with the computing facilities:

21. Was the technical support adequate?

21.1	Yes	☐
21.2	Mostly	☐
21.3	To some extent	☐
21.4	No	☐

22. Please describe any problems you or your learners had with the level or quality of technical support:

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23. Did you help to select the software/application for your project?

Yes ☐ No ☐

If yes, how did you make your selection?
please tick all that apply
Did you:

23.1	Use a formal evaluation method/tool developed in-house	☐
23.2	Use a formal evaluation method/tool developed externally	☐
23.3	Apply standard quality criteria	☐
23.4	Consider acceptability with regard to equal opportunities	☐
23.5	Seek to cater for learners with learning difficulties or disabilities	☐
23.6	Seek to cater for a variety of preferred learning styles	☐
23.7	Other, please give details:	

24. Are you satisfied with the software/applications?

24.1	Yes	☐
24.2	Mostly	☐
24.3	To some extent	☐
24.4	No	☐

25. Please explain your answer:

26. Were there enough resources to support your project?

26.1	Yes	☐
26.2	Mostly	☐
26.3	To some extent	☐
26.4	No	☐

27. Please outline some shortfalls:

28. How did you support your learners while they were using the ICT materials?

28.1	Used them in classroom	☐
28.2	Tutor available if needed	☐
28.3	Progress meetings	☐
28.4	E-mail	☐
28.5	On-line conferencing (e.g. FirstClass)	☐
28.6	Phone	☐
28.7	Other, please specify:	

29. How did you monitor your learners' progress?

29.1	Pre and post test	☐
29.2	Progress monitoring built into the system used	☐
29.3	Log books (paper or electronic)	☐
29.4	On-line tutorials	☐
29.5	Face-to-face meetings	☐

30. How did you feed back to your learners on their progress?

30.1	Feedback provided by system direct to learner	☐
30.2	E-mail	☐
30.3	Paper reports	☐
30.4	Progress meetings	☐

31. How did you give your learners the opportunity to feed back on the project?

31.1	Questionnaire	☐
31.2	Focus group	☐
31.3	Interview	☐
31.4	E-mail	☐
31.5	Web-based discussion group	☐
31.6	Feedback buttons	☐
31.7	Other, please specify:	

32. How much did your learners appear to enjoy the project? Estimate the percentage of learners in the following categories:

		%
32.1	Really enjoyed	[ ]
32.2	Enjoyed	[ ]
32.3	Non-committal	[ ]
32.4	Didn't enjoy	[ ]

33. How do you feel this group of learners compares with your past learners in terms of how much and how quickly they learned?

33.1	Much better	☐
33.2	Better	☐
33.3	About the same	☐
33.4	Not as good	☐
33.5	Far worse	☐
33.6	Can't tell	☐
33.7	Not applicable	☐

34. Please give reasons for your answer:

35. **What do you think was the best aspect of the project for the learners?**

36. **What do you think was the worst aspect of the project for the learners?**

37. **Have you had the opportunity to discuss the strategic aims of the project with your manager?**

37.1 Yes ☐
37.2 No ☐

38. **Have you got a copy of the strategic aims of the project?**

38.1 Yes ☐
38.2 No ☐

39. **If yes, how well do you think your part in the project contributed to the strategic aims?**
(ratings based on FEFC inspection grades)

1 = outstanding achievement ☐
2 = good achievement ☐
3 = satisfactory achievement ☐
4 = less than satisfactory achievement ☐
5 = poor achievement ☐

40. **Give reasons for your answer:**

41. **In the table below, list the specific aims of your project. Rate how well the project achieved each aim using the 1– 5 scale in question 39. Give reasons for your ratings (include concrete evidence as far as possible) and indicate how you plan to improve any unsatisfactory ratings. The first two rows have been filled in as an example:**

Specific aims	Rating	Reasons	Planned improvements
To contribute to the improvement of basic skills of learners	2	Improved achievement on assessed work	Further improvement of learner materials to support basic skills development
To contribute to improved teamwork skills among the learners	4	Poor access (reported on the learner questionnaires) to the e-mail system discouraged learners	Technical assistance

42. **Describe any specific problems you had evaluating the project:**

43. **Any other comments?**

Thank you for completing this questionnaire.

Manager questionnaire template

Introduction

This questionnaire is intended for use as part of an evaluation process involving collection and comparison of feedback from the major stakeholders (typically learners, teaching staff and managerial staff) in an ICT project or strategy. To ensure maximum benefit from the evaluation process, please complete this questionnaire fully and frankly.

Context

1. **Name:**

2. **Job title:**

3. **Role in this project:**

4. **Project title:**

5. **Brief description of the project:**

6. **Start date:**

7. **Status of the project**
   please tick one only

   7.1 Flagship ☐
   7.2 Pilot ☐
   7.3 Response to invitation to tender ☐
   7.4 Part of whole-organisation ICT strategy implementation ☐
   7.5 Local (department/faculty/school) initiative ☐
   7.6 *Ad hoc* ☐

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8. **How would you describe senior managers' commitment to the project?**

8.1 Championed by senior management ☐
8.2 Actively interested, supportive and have ensured adequate resources ☐
8.3 Some interest and support when approached ☐
8.4 Have approved project but will take little interest until success demonstrated ☐
8.5 Unaware of project or not interested ☐

9. **How would you describe the delivery team's commitment to the project? (e.g. lecturers, tutors, librarians, learning assistants involved)**

9.1 Feel ownership for the project and fully committed to its success ☐
9.2 Believe the project is important and will do their best to ensure success ☐
9.3 Interested and will try to dedicate sufficient time ☐
9.4 Have been asked to participate but do not consider it a priority ☐
9.5 Only participating because required to ☐

10. **Have there been any changes in the organisation since the start of the project that may have affected its outcomes or timescales? i.e.**

10.1 Organisation-wide reorganisation/restructuring ☐
10.2 Changes to senior management team ☐
10.3 New ICT strategy ☐
10.4 Change in management responsible for the project ☐
10.5 Staff turnover in the delivery team ☐
10.6 Other, please specify:

11. **Have you used ICT materials to assist your own learning?**

Yes ☐ **No** ☐

If yes, please give details and indicate whether or not you found this method of supported learning effective.

12. **How would you describe your own use and understanding of ICT?**

12.1 Expert ☐
12.2 Regular and confident user ☐
12.3 Intermediate and learning quickly and enthusiastically ☐
12.4 Beginner or occasional user ☐
12.5 Little or no experience of ICT ☐

13. **How would you describe use the delivery team's and understanding of ICT?**

- 13.1 Experts ☐
- 13.2 Regular and confident users ☐
- 13.3 Intermediate and learning quickly and enthusiastically ☐
- 13.4 Beginners or occasional users ☐
- 13.5 Mixed-ability team ☐

14. **How does the organisation meet the staff development needs of the delivery team?**

- 14.1 Individual tailor-made CPD programmes ☐
- 14.2 External courses ☐
- 14.3 In-house courses ☐
- 14.4 Self-paced flexible learning materials ☐
- 14.5 On-line learning ☐
- 14.6 Other, please specify:

15. **How often did the delivery team meet?**

- 15.1 Daily ☐
- 15.2 More than once a week ☐
- 15.3 Weekly ☐
- 15.4 More than once a month ☐
- 15.5 Monthly ☐
- 15.6 Quarterly ☐
- 15.7 Occasionally ☐

16. **How did the delivery team feedback to the management?**
please tick all that apply

- 16.1 Face-to-face meetings ☐
- 16.2 E-mail ☐
- 16.3 Web/Intranet ☐
- 16.4 Paper reports ☐

Resources, access and support

17. **How did learners access the computing facilities?**

- 17.1 In classrooms ☐
- 17.2 In college-based learning centres ☐
- 17.3 In community-based learning centres ☐
- 17.4 From work ☐
- 17.5 From home ☐

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18. Did learners have any problems accessing the computers? Yes ☐ No ☐
If yes, please give details

19. Did learners have any problems getting technical support? Yes ☐ No ☐
If yes, please give details

20. Did staff have any problems accessing the computers? Yes ☐ No ☐
If yes, please give details

21. Did staff have any problems getting technical support? Yes ☐ No ☐
If yes, please give details

22. Did you help to select the software/application for your project? Yes ☐ No ☐
If yes, how did you make your selection?
please tick all that apply
Did you:

22.1 Use a formal evaluation method/tool developed in-house ☐
22.2 Use a formal evaluation method/tool developed externally ☐
22.3 Apply standard quality criteria ☐
22.4 Consider acceptability with regard to equal opportunities ☐
22.5 Seek to cater for learners with learning difficulties or disabilities ☐
22.6 Seek to cater for a variety of preferred learning styles ☐
22.7 Other, please give details:

23. How was the project funded?

23.1 Fully externally funded ☐
23.2 Partially externally funded ☐
23.3 Funded from central internal budget ☐
23.4 Funded from local (e.g. department/faculty/school) budget ☐

24. To what extent did the funding support the implementation?

24.1 Fully ☐
24.2 Adequately ☐
24.3 Less than adequately ☐
24.4 Inadequately ☐

25. What are the implications of the way the project was funded in relation to its long-term future?

25.1 Long-term future secure ☐
25.2 Possibility of project continuing if seen as successful ☐
25.3 Project unlikely to be able to continue when initial funding ceases ☐
25.4 Project will cease when funding ceases ☐

Outcomes

26. In the table opposite, list, in order of priority, the strategic aims of the project, rate how adequately they were addressed, provide reasons for your ratings and note planned improvements.

Aims may include those related to:

- **learners** e.g. concerning achievement, inclusiveness, participation, learner support
- **the organisation and its staff** e.g. concerning improving the quality of the learning environment, staff development, delivery modes, modularisation, cost effectiveness, raising the profile/status of the organisation, learner recruitment
- **the wider community** e.g. concerning employers' requirements or community needs.

In considering whether, and to what extent, the aims were addressed it may be helpful to refer to the FEFC Self-Assessment Quality Statements and to rate how well the project achieved each aim using the following scale:

1 = outstanding achievement
2 = good achievement
3 = satisfactory achievement
4 = less than satisfactory achievement
5 = poor achievement

Reasons for ratings should include concrete evidence if possible.

The first two rows have been filled in as an example.

Strategic aims	Rating	Reasons	Planned improvements
Widen participation	3	Small increase in working-class males attending classes supported by ICT	Improve access to supported IT sessions for development of IT skills
Extend the range of teaching strategies to improve learner motivation and understanding	2	Learner questionnaire responses. Retention and achievement rate	Encourage take-up by more lecturers

27. Describe any specific problems you had evaluating the project

28. How would you describe the project in terms of value for money?

28.1 Excellent value ☐
28.2 Good value ☐
28.3 Not very good value ☐
28.4 Poor value ☐

29. What evidence do you have for your answer?

30. Any other comments?

Thank you for completing this questionnaire.

Customising the questionnaire templates

3

The questionnaire templates are provided on CD to facilitate customising them for particular ICT projects and a variety of uses of ICT in teaching and learning.

In the college trials the questionnaire templates generally proved easy to adapt. This customising was essential for:

- enhancing usability (of the learner questionnaire in particular)
- enhancing the relevance of the evaluation process.

Electronic scanning

Data collected via questionnaires are often extracted for computer analysis by electronic scanning systems, such as optical character recognition (OCR), optical mark recognition (OMR) and intelligent character recognition (ICR). If the completed questionnaires are going to be scanned, data entry fields (e.g. tick boxes) need to be an appropriate size and format.

Appropriate language

The language in the learner questionnaire is designed to be suitable for a wide variety of learners but customisation may be helpful for learners with weak literacy skills or special educational needs.

Assessment requirements

In trials some learners had difficulty answering a question about how use of the system contributed to their assessment requirements. This question can easily be customised to make more sense to learners. For example:

- Is the work you are typing going to be marked?
- Is your tutor going to give you a grade for your searching of the World Wide Web?

Aims and objectives

Customisation is essential if the questionnaire is to address the unique aims and objectives of a project or strategy. Question 5 in the learner questionnaire template asks whether learners agree with some very generalised statements. These should be replaced with questions that reflect specific aims and objectives. For example:

- When evaluating the success of an on-line teacher training programme in technology, the customised questionnaire might ask how far the learners agree with statements like:

  The NewMedia software package introduced me to new ideas for teaching my students.

  After using NewMedia I felt confident in using the Web.

  I now feel confident enough to use spreadsheets in the classroom.

- When evaluating ICT use on a basic skills course, the customised statements for learners might include:

  WordSpell helped me to understand the meaning of the following words:

  - *manufacture*
  - *vehicle*
  - *profit.*

  I like using WordSpell more than the textbook.

- For learners on an advanced biology programme, customised statements could include:

  PhotoWorld helped me to understand the chemistry of photosynthesis.

  After using PhotoWorld I can describe how changes in carbon dioxide levels will affect the rate of plant growth.

  I found information in PhotoWorld that will help me write the assessed essay.

Success criteria and performance indicators

In some cases senior management, or the project manager, may have developed success criteria or a set of performance indicators for the project. In this case customisation of the questionnaire templates needs to include appropriate questions relating directly to the performance indicators or designed to gauge whether or not the success criteria have been met.

Pre- and post-knowledge testing

Evaluation managers may feel that it is appropriate in some circumstances to include questions to test learners' knowledge before and/or after their use of ICT learning systems or resources to check learning and retention of knowledge. For example, the questionnaire for the learners on the biology programme mentioned above, might include:

- How do changes in carbon dioxide levels affect plant growth?
  (please use at least one example in your answer)
- Draw a diagram to outline the process of photosynthesis.

Evaluation methodologies

4

What is evaluation?

According to Robson (1993), evaluation can generally be defined as a method of assessing the effects or effectiveness of something, typically some innovation or intervention, on policy, practice or service.

What is an evaluation strategy?

According to Sommerlad (1992), designing an evaluation strategy is primarily about making choices. These choices concern:

- the reasons for evaluating (e.g. to modify and improve materials)
- the focus of the evaluation (e.g. on learning, motivation, inclusiveness, equal opportunities, cost effectiveness, etc.)
- the method to be used (e.g. experimental)
- the information required to make the evaluation
- the specific tools to be used (e.g. questionnaires, interviews, observations, pre tests, post tests, etc.)
- who will do the evaluating
- how the process will be managed, reviewed and modified
- how to ensure that the results of the evaluation are used to achieve improvements.

Evaluation methodologies

Current research identifies three broad evaluation methodologies:

- quantitative methods based on controlled experiment methodology
- qualitative methodologies
- hybrid methodologies.

Experimental evaluations aim primarily to provide summative evaluations of the performance and properties of information and communications technology. In this type of evaluation often one group of learners is given access to specific ICT resources and another group is not. The learning outcomes for both groups are then compared. Interpreting the results of these experiments has proved problematic for several reasons, one being that since ICT is not used in isolation it is almost impossible to ascribe any change in learning outcome to it. These problems are widely discussed by Elton and Laurillard (1979), MacDonald and Jenkins (1979), Draper (1997), Gunn (1997) and others. Even without them, ethical issues arise when some learners are deliberately denied access to materials that may improve their learning and performance.

Qualitative evaluations aim primarily to discover what factors are important when considering learning in relation to ICT. Qualitative methods often start without pre-defined aims and seek to identify and explain problems, issues and features during use of ICT materials (Oliver and Conole, 1998). They are particularly useful for formative evaluation of software used in real teaching situations. Methods include observations, interviews with participants, questionnaires and document analysis.

Hybrid models (Jones *et al.*, 1996; Gunn, 1997; Draper *et al.*, 1996) fall between these two extremes and aim to help teachers and organisations make better use of ICT through cycles of evaluation and modification. The rest of this section outlines four hybrid models that have informed the development of the evaluation tools provided in this manual.

Open University framework

The Open University framework was developed over 15 years of evaluation work at the Open University. It uses qualitative and quantitative techniques, information from a variety of sources and has three main dimensions:

- *context* refers to the aims and rationale behind the use of the technology
- *interactions* explores the learners' interactions with the technology
- *outcomes* examines the learner learning that results from interaction with the technology.

The following table summarises the rationale behind each dimension, the data collected as part of this and the methods used to collect the data.

The Open University framework for evaluation

	Context	Interactions	Outcomes
Rationale	• Both the past evaluations carried out by the OU and the literature suggest that the context of the ICT must be considered	• We need to look at interaction to focus on the learning process	• Learning outcomes must be considered to try to assess the effectiveness, but we have also argued for the importance of effective outcomes such as changes in learners' perceptions and attitudes
Data	• Designers' and course teams' aims	• Records of learner interactions • Learner diaries and on-line logs	• Measures of learning • Changes in learner attitudes and perceptions
Methods	• Interview ICT designers and course team members • Analyse policy documents	• Observation • Diaries • Video/audio computer recording	• Interviews, questionnaires and tests

Source: Jones *et al.*, 1996

Teaching with independent learning technologies

The teaching with independent learning technologies (TILT) model was developed by Draper *et al.* (1996). Their remit was to evaluate a diverse range of computer-aided learning (CAL) in use in a university setting. This method can be described at two levels: outer and inner.

The outer method starts with one or more meetings between evaluators, teaching staff and developers to:

- establish teaching staff goals for evaluation
- elicit the learning aims and objectives to be studied
- elicit the classroom provision, course integration, and other features of the teaching situation, and the support surrounding the courseware itself, e.g. how the material is assessed, whether it is a scheduled teaching event or open access
- establish options for classroom observation, questionnaire administration, interviews, etc.

The evaluators, teaching staff and developers then examine the material to identify where assessments, learning quizzes or other measures of learning gains could be incorporated. The teaching staff and developers incorporate these, and the evaluators and teaching staff finalise a design for the study. The classroom study then occurs, and the evaluators draw up a preliminary report which is distributed to the teaching staff. Their comments contribute substantially to the final report.

The inner method concerns the instruments used. A large study may use all the following: computer experience questionnaires, task experience questionnaires, evaluator observations possibly supported by videotape, learner confidence logs, knowledge quizzes, post-task questionnaires, focus groups or interviews, learning resource questionnaires and post-course questionnaires.

The BP evaluation of learning technologies model

The BP evaluation of learning technologies model was developed by Martin Oliver and his team at the University of North London as part of the **BP evaluation of learning technologies** project. The framework involves several processes, not all of which will be appropriate for any given study. The following table outlines the stages of evaluation plus the people involved and the evaluation methods at each stage.

The BP evaluation of learning technologies model

Intention	Involves	Method
Select appropriate resources, or identify appropriate uses for resources	Practitioners	Interview
Specify assessment criteria and learning outcomes	Practitioners	Interview
Identify factors that may influence learning outcomes	Researchers and practitioners	Interview and literature review
Gather background information about course and content	Institution	Requests for information
Gather background data on subjects	Learners and institution	Survey and requests for information
Gather data on initial level of knowledge	Learners	Pre test
Assess effects of interventions such as: • Condition 1 (e.g. lecture based) • Condition 2 (e.g. distance learning) • Condition 3 (e.g. open learning) and so on	Learners and practitioners examples of work	Observation, activity logs, examples of work
Gather data on final level of knowledge	Learners	Post test
Assess feedback on material and learning experience	Learners	Survey and interviews
Gather data on long-term level of knowledge	Learners	Delayed post test
Assess time commitments and involvement of tutors	Staff	Observations and interviews

Source: Oliver, 1997

International evaluation projects and methods

USA

The Flashlight programme, part of the TLT Group in the USA, has been developing evaluation tools since 1994 to help educators answer the most common questions about educational technology. First developed was the *Current student inventory*, a collection of questionnaires that can be pulled apart and re-amalgamated to suit every evaluation, as far as students are concerned. This inventory looks, in part, at the effectiveness of educational technology. In 1999, Flashlight released the *Costs analysis handbook*, which helps users build an economic model to measure the costs of educational technology. The costs and the effectiveness of educational technology have been approached from two directions but are still regarded as two separate entities. Another disadvantage of the Flashlight tool is that the programme encourages individual use of all the tools and so the data cannot be compared across the sector. The Flashlight programme has been used extensively in American junior colleges and is now entering the UK evaluation arena. The Joint Information Systems Committee (JISC) has recently announced funding for a UK Flashlight consortium to test the methodology in UK higher education and to assess its suitability as an evaluation tool.

Australia

In a framework devised for the evaluation of educational and training programmes in commerce and industry, James Athanasou (1998) proposed a six-stage 'holistic' evaluation process:

- Is the programme or service ethical?
- To what extent do the programmes or services cover those who are most in need?
- What are the costs, benefits and utilities of the programme or service?
- Did the programme or service achieve its key objective/s?
- What is the net effect of the programme or service?
- To what extent have the perspectives and interests of all stakeholders been considered and met?

Athanasou also identifies five barriers to evaluation:

- lack of standards
- difficulty in measuring the evaluation of training
- insufficient staff
- difficulty isolating behaviours that changed as a result of training
- lack of expertise in evaluation methods.

Key evaluation design issues

Some general points regarding evaluation design emerged from the studies:

- Many factors affect the successful use of ICT.
- Any educational evaluation is strengthened if data are gathered from as many different sources as possible and conclusions are drawn by a process of triangulation.
- Evaluation should be based around each staff member's/manager's stated objectives.
- Evaluation should involve real learners in real situations, that is, the evaluation should take place in context.
- Open-ended questions should be included to investigate unpredicted issues.
- Strategies should be developed to promote ownership of the evaluation process by those directly involved.

Counting the costs

Charlotte Ash and Professor Paul Bacsich from Sheffield Hallam University (SHU) have promoted an holistic approach to evaluation and believe that:

- evaluation should start at the beginning of any initiative
- measurement of effectiveness should go hand in hand with measurement of costs.

The SHU Costs of Networked Learning (CNL) costing methodology takes into account every step of the development process, from planning buildings and IT infrastructure, to the maintenance of learning materials. The assertion is that evaluation of effectiveness must be built upon the same framework. Ash and Bacsich believe that, to be meaningful, evaluations must take account of both cost and effectiveness for all stakeholders.

Analysis guidance template

5

The following is a checklist of key questions for consideration when:

- analysing responses to the questionnaires developed from the templates in this manual
- developing reports
- developing action plans.

Please note Before using this template it should be customised to include the new or amended questions arising out of customisation of the learner, staff and questionnaire templates.

The learner questionnaire

General information about the respondents

- How many respondents? What programme/s? Age ranges?
- What significance might the profile have? (e.g. possible inclusion of higher or lower than average numbers of early adopters of new technologies)
- What was the sampling strategy? (e.g. 50 questionnaires were distributed to three groups of GNVQ Intermediate learners, 12 questionnaires were distributed to one group of adult returners, etc.)
- How representative was the sample?

Use and understanding

- How many were mistaken about any aspects of assessment?
- How many thought they understood why they were using the software?
- How many thought they did not?
- Were any clearly mistaken about the purpose?
- What emerged as the best aspects?
- What emerged as the worst aspects?
- How many thought the activity helped them learn? How many did not?
- Did any notable comments arise as reasons for the answers?
- Does the questionnaire help to explain why the learners felt the system helped them to learn, or did not? i.e.
  - is there an apparent relationship between this and their general computer use?
  - or their awareness of the reasons for the system use?
  - or their perception of the system accessibility and usability?
  - or the statements in Question 5 that relate to specific aspects of their use of the system
- Do the responses suggest that any particular aspects of use of the system need to be addressed?

The staff and manager questionnaires

Staff, managers and programmes

- How many staff and manager respondents are there, and what are their roles in the project?
- How typical are they?
- Are there any obvious differences between the managers' and teaching staffs' overall perceptions of:
  - the project
  - management commitment
  - team commitment?

  If so, are any of these significant?
- Do the project team members see themselves as generally confident about ICT use? and have they used ICT in their own learning?
- Can this be compared with results of any training needs analysis?
- If so are results consistent?
- How will this information feed into arrangements for staff training?
- Does the range of programmes listed in the table on the staff questionnaire reflect the range of programmes targeted by the project or strategy?

Resourcing and materials

- Are there issues that need addressing?
- Are possible solutions indicated?
- Were equal opportunities and preferred learning styles taken into account when selecting and developing the ICT materials?

Outcomes

- How positive are the teaching staff about the outcomes of the project?
- Are their perceptions in line with those of the managers? Are they supported by the analysis of the learner questionnaire?
- What are the perceived strengths and weaknesses of the project?
- Are the teaching staff aware of the strategic aims of the project?
- If so, how do they rate their contributions to these aims?

Consideration of data from additional sources

- Have you collected information using log books or diaries (paper or on-line)?
- If so, does this information support or contradict information collected via the questionnaires? What is the significance of any apparent contradiction?
- Have you collected information by observation (via observers or cameras)?
- If so, does this information support or contradict information collected via the questionnaires? What is the significance of any apparent contradiction?
- Are data available from learner tracking or management information systems (MIS)?
- If so, do they support or contradict information collected via the questionnaires? What is the significance of any apparent contradiction?
- Does any software used produce statistics, learner progress feedback or management information?
- If so, does this information support or contradict views expressed by learners or staff responding to the questionnaires? What is the significance of any apparent contradiction?

Overall evaluation of project on the basis of all data collected

- How would you rate the success of the project or strategy?
- According to the learner, staff and manager responses, and their analysis, what improvements could be made to the project or strategy?
- Which of these improvements are priorities?
- Do you have an action plan for the prioritised improvements? Is this required by a self-assessment or quality improvement programme?
- How will you involve stakeholders in developing the action plan?
- How and when will you implement the action plan?
- How and when will you evaluate any modified project or strategy?

Appendix

Colleges and projects involved in trials of questionnaire templates

The case-study colleges and their ICT projects

Six colleges were involved in piloting the evaluation questionnaire templates in 1998/99. Colleges were selected because they:

- were enthusiastic about participating
- were generally working well with ICT (but it was recognised that if any of the colleges were having problems with some aspects of implementing ICT this would provide a valuable extra dimension to the trial)
- were different types and sizes of colleges in diverse locations.

A variety of types and sizes of ICT project with different aims, objectives, timescales and levels of staffing were evaluated. The numbers of learners involved ranged from 15 to 700. The learners themselves ranged from those with literacy problems to graduates.

Halton College

Halton College is based in Cheshire, with its main site in Widnes. It targets the local community and the delivery of work-based training. The college has made considerable investments in computing and multimedia facilities. It has a large learning centre and a multimedia centre with up-to-date technology including high specification Apple Macintosh computers and a range of multimedia hardware and software; scanners, digital cameras, camcorders, graphics software, authoring tools and video and sound editing facilities. The college has a broadcast-quality recording studio, virtual reality equipment and video-conferencing facilities.

The member of staff involved in trialing the evaluation tools had a cross-college role and proposed two projects for the evaluation pilot. One involved the use of laptops to develop ICT skills in teachers. The other, which was selected for trialing the evaluation tools, involved the use of a commercially available authoring package, *Course info*, to put materials on-line, to support learners' learning and develop teachers' ICT skills. *Course info* is very simple to use and gives teachers the opportunity to produce learning materials that include text, video clips, exercises and quizzes. Staff are able to monitor use by the learners in their class and to look at both individual and class test results. Groups using *Course info* are connected via the Internet and can therefore form discussion groups.

Luton Sixth Form College

Luton Sixth Form College was the first sixth form college in the country, and is one of three colleges in south Bedfordshire. Most of its provision is aimed at 16 to 19 year-olds. The college has 19 subject-based departments grouped into three teaching faculties: arts and communication; humanities and business studies; mathematics, science and technology. A fourth faculty is responsible for learner services. The college has a strong commitment to resource-based learning and its centralised computing facilities include a large learning resource centre and three subject-specific resource bases staffed generally by library staff and one teacher from the appropriate subject area.

The college has several large, cross-college ICT projects, two of which were earmarked for trialing the evaluation tools. The member of staff was responsible for the technical aspects of these projects. One of the projects involved careers software for first-year learners on two-year A-level or Advanced GNVQ courses.

The aim of the project was that the software would be used by approximately 700 learners per year, in their tutor group sessions, as part of an eight-week series of careers sessions. The project was set up in the spring of 1996 and was designed to replace a one-hour per week input by the careers staff. The second project, which was described as possibly more of a 'policy decision', involved switching on access to the Internet on 100 staff machines and 300 learner machines. This had happened in September 1998, and the member of staff responsible was keen to evaluate the impact of this policy decision on learners' work practices. Both projects were used in trialing the evaluation tools.

Newark and Sherwood College

Newark and Sherwood College is a relatively small FE establishment in a mainly rural area. The immediate area has a population of about 108,000 but the college attracts learners from further afield, including overseas. It has four sites in Newark and its education and training provision is organised into nine schools of study. Since the appointment of the new principal in 1995, the college has invested significantly in IT infrastructure, including extensive refurbishment of its new learning centre which is open 50 weeks a year.

The project the college selected to pilot the evaluation tools was the **A-level resource-based learning** project. The project involved about 10 full-time A-level courses, 20 members of staff (10 full time and 10 part time) and 100 learners. All members of staff were required to cover one six-week block of teaching using resource-based learning materials, with an emphasis on ICT. The plan was that learners would work independently through the materials and access their teachers when they needed help. Some classroom time was still timetabled.

Newcastle College

Newcastle College is a rapidly expanding college which has grown by 50% since incorporation. It has a main campus in the west of the city and four other sites throughout the city. The college has four faculties: business, management and IT; engineering and the built environment; humanities, hospitality and science; visual and performing arts. The programmes offered a range from foundation level to first-year, non-honours degree courses with vocational courses accounting for nearly three-quarters of the college's provision.

The staff who were involved in trialing the evaluation tools worked in the Business, Management and IT department, where several interesting ICT courses were being developed. These included a multimedia taster in key skills, which was being developed as part of the University for Industry in collaboration with Gateshead College and City of Sunderland College. A telematics course on use of the Internet, e-mail and video-conferencing was already running at basic and intermediate levels and the advanced level was being set up. The ICT programme on which the evaluation materials was trialed was the JEB Certificate in Educational Use of IT. This programme was aimed at school-teachers, and was designed to help them use computing technology in the classroom. The staff at Newcastle had originally hoped to trial the evaluation materials on the key skills project, but because there were delays in getting this on-line they decided instead to focus on the JEB Certificate programme.

Pontypridd College

Pontypridd College is one of the largest FE providers in South Wales. It has four sites and was formed by the merger in 1995 of Pontypridd and Rhondda Colleges. The college has approximately 5,000 learners and employs approximately 500 staff (Pontypridd, 1999). It offers a wide range of courses, including leisure, construction, art and design, engineering, business management and manufacturing technology. The college has a number of subject-based workshops and a general IT support unit which is available to learners on a 'drop-in' basis.

The project selected for trailing the evaluation tool was a multimedia key skills project funded by the Welsh Office for disaffected 14–16 year-olds. The learners attended Pen-Y-Dre school and went to Pontypridd College one day a week for their GNVQ Foundation Course in Manufacturing. The project involved about 14 learners, and used key skills materials that had been developed from paper based materials by a full-time technician using *Authorware Version 5*.

Waltham Forest College

Waltham Forest College is a large general FE college, with mostly vocational courses. It has two sites, one in Waltham Forest and one in Chingford. The college has three directorates: development, curriculum and administration, and management services. There are nine teaching schools in the curriculum directorate: applied science; arts, language and teacher training; automobile engineering; business, computing and management; engineering; general education; health and community care; office technology and administration; tourism, hospitality and leisure. The college has recently made substantial investments in computing equipment. It has well-resourced IT and learning centres, equipped with PCs and extensive tutor support, as well as a large English and maths workshop.

The staff involved in trialing the evaluation tools worked in a variety of departments. They were responsible for managing the English and maths workshop, and for delivering teacher training programmes. The college is currently developing some ambitious ICT projects, two of which were considered for involvement in the trailing. The first of these was a basic skills course, designed to develop the numeracy and literacy skills of, in the first instance, local carers. The course was FEFC and Basic Skills Agency funded. The second was an Edexcel **Supporting the learner** professional development programme whose target group was local teachers; this was designed to integrate ICT into the delivery of staff development programmes. There were, however, delays in getting the basic skills course on-line, and so the Waltham Forest College team decided to focus on the professional development project during the trialing of the evaluation tools.

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Glossary

CAL computer-aided learning

CNL costs of networked learning

FE further education

ICR intelligent character recognition

ICT information and communications technology

ILT information and learning technologies

JISC Joint Information Systems Committee

MIS management information system

MLE managed learning environment

NLN National Learning Network

OCR optical character recognition

OMR optical mark recognition

SHU Sheffield Hallam University

TILT teaching with independent learning technologies

TLT Teaching, Learning and Technology Affiliate of the American Association for Higher Education

WWW world wide web

As the FE sector continues to invest heavily in information and learning technology, it becomes increasingly important to measure the benefits of ILT and ICT in terms of learning. This practical manual describes relevant evaluation methodologies, the evaluation process and how to analyse and act on feedback from the evaluation. It also provides three customisable questionnaire templates designed to collect feedback from learners, staff supporting learners and managers. The questionnaire templates are available on the accompanying CD to facilitate easy amendment and use.

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